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At the present time any person may take gold to the mint and receive its full weight in gold coin. We are only asking that the same privilege be extended to the holders of silver. The law now in force is an unjust discrimination against silver in favor of gold, and it is this alone which has brought about the present disparity of their values. Silver at one time under free coinage was at a premium above gold. It is not that silver has lost, but that gold has gained in the last decade. This has been brought about partly by the larger output of silver, partly by the relative decrease in the gold produced, but most of all by the demonetization of silver. It is claimed that free coinage would bring inflation. All the silver in the world amounts to about $3,700,000,000. If it were all dumped down here at once it would only make about $58 *per capita*. The same authority claims that it would bring contraction. As to that, for eighty years silver and gold were coined free, and there was no more disturbance in the markets about one metal than the other.

Experience has shown that the price of American farm products at home is governed by the amount of legal-tender money in actual circulation. To satisfy ourselves of this fact we have only to examine the prices of farm products during a period of twenty years, beginning with the year 1872.

As to whether I am sound or not on this question, look at the action of our United States Senate—twice repeated in passing a free-coinage bill. The Senate is presumed to possess the best brain tissue of our government, although not always in accord with classic theories.

NEWTON L. BUNNELL.

THE ART OF LIVING TWO HUNDRED YEARS.

VERY few people, it is safe to say, desire old age. Men and women harassed by trouble, or overpowered by sorrow, surrounded by disgrace or tortured by pain may long for death, but not for a hundred or two hundred years of human life. Old age is of two kinds. One, the calm passing of many years; the other, brought about by excesses either mental or physical. The latter is not within the province of this brief essay. Without good health and faculties, trained by sobriety and temperance in all things, both of mind and body, long life would be an intolerable tedium. To die would indeed be great gain in such a case. The possibility of living two hundred years in average good health seems to many a wild sort of scientific dream. So did crossing the Atlantic by steamships; so did conveying intelligence by electricity; so did all the many startling inventions of these latter days. Every week we read of people who have lived to be a hundred or a hundred and ten years old. Let us not be surprised at anything.

We cannot defy death. But we may, by searching, find certain secrets of nature and apply them to the renewal of the organs whose decay is constantly going on in the body. Anatomical experiment and investigation show that the chief characteristics of old age are deposits of earthy matter of a gelatinous and fibrinous character in the human system. Carbonate and phosphate of lime, mixed with other salts of a calcareous nature, have been found to furnish the greater part of these earthy deposits. As observation shows, man begins in a gelatinous condition; he ends in an osseous or bony one—soft in infancy, hard in old age. By gradual change in the long space of years, the ossification comes on; but after middle life is passed, a more marked development of the ossific character takes place. Of course

these earthy deposits, which affect all the physical organs, naturally interfere with their functions. Partial ossification of the heart produces the imperfect circulation of the blood, which affects the aged. When the arteries are clogged with calcareous matter there is interference with the circulation upon which nutrition depends. Without nutrition there is no repair of the body. Hence in his work "The Physiology of Common Life," G. H. Lewes states that "If the repair were always identical with the waste, life would only then be terminated by accident, *never by old age*." Both Bichat and Baillie considered that the greater number of people past sixty suffer more or less from arterial ossification, which brings about obstructions in the proper and healthy circulation of the blood.

None of these things interferes with nutrition and circulation in early years. The reparation of the physical system, as every one ought to know, depends on this fine balance. In fact, the whole change is merely a slow, steady accumulation of calcareous deposits in the system. The physical organs cannot preserve the balance between waste and nutrition. This is what we call old age. Nutrition in the earlier years of life is perfectly performed. Repairs are at once promptly attended to by the young blood. To repair the waste of the body, so that the exquisite equipoise called perfect health may be maintained, and the decay and blockage which advances with age may be kept at bay, is to prolong our years. If this secret be known, why not hundreds of years of life? Keep the means of repair of the system always in good working order, and you live, according to nature, in the highest, finest sense. Then, what are the means of checking these osseous and cartilaginous enemies of life?

The oxygen of the atmosphere is a most destructive element in many respects. Researches of a recent scientific character have shown that the origin of one of the sources of old age, namely, fibrinous and gelatinous matter, can be traced to the destructive action of atmospheric oxygen. Now, the relative proportions of oxygen and nitrogen in the air we constantly breathe are 22 of the former to 78 of the latter. Oxygen is the more active, aggressive element of the two, though of much smaller bulk. For every other element except fluorine, oxygen has an affinity, thus forming oxides. In the chemical changes constantly taking place in our bodies, oxygen plays the most important part by all odds. By oxidation, which is a constant waste or rust of life, the physical system is hourly destroyed, and then again built up by the reparation of the food we live upon. Albumen and fibrine exist in the b ood, and are resolved into their component elements, carbon, hydrogen, nitrogen, oxygen, sulphur, and phosphorus. By oxidation, the albumen is converted into fibrine, which nourishes the organs of our bodies. But in repairing their waste an excess of this substance accumulates in the blood vessels, causing their induration, and thus gradually lessening their calibre. Gelatine is an oxide of fibrine, as fibrine is an oxide of albumen. Oxidation causes these substances in part to be decomposed, and afterwards eliminated through the kidneys. A constant struggle is daily going on in our bodies when in the most perfect health between accumulation and elimination. And these accumulations, becoming greater in old age than the power of elimination, produce the effects we term feeling one's age.

In order to extend and prolong life, how shall they be counteracted? Let us see. Seventy per cent. of the human body is water—nearly three-fourths. Not a single tissue is there in which water is not found as an ingredient. Certain salts are held in solution by this water, portions of

which—notwithstanding the large quantity eliminated by the secretions—become more or less deposits in the body. When these become excessive and resist expulsion, they then cause the stiffness and dryness of old age. Entire blockage of the functions of the body is then a mere matter of time, and the refuse matter deposited by the blood, in its constant passage through the system, stops the delicate and exquisite machinery which we call life. This is death. It has been proved by analysis that human blood contains compounds of lime, magnesia, and iron. In the blood itself are thus contained the earth salts. In early life they are thrown off. Age has not power to do it.

Hence, as blood is produced by assimilation of the food we eat, to this food we must look for the earthy accumulations which in time block up the system and bring on old age. It is thus seen that in the necessary elements of nutrition lurk the enemies of life, for food contains salts of a calcareous character. Does it then follow that man, by careful selection of his daily food, may prolong his life? In a measure, yes. Bathing, pure air to live and sleep in, exercise and other means of preserving health, must be attended to, of course; but what we put into our mouths to make our blood is the important matter either in retaining health or prolonging life. Almost everything we eat contains more or less of these elements for destroying life by means of calcareous salts deposited by the all-nourishing blood. Careful selection, however, may enable us to avoid the worst of them.

Paradoxical as it may sound, certain foods which we put into our mouths to preserve our lives help at the same time to hurry us to the inevitable gate of the cemetery. Earth salts abound in the cereals, and bread itself, though seemingly the most innocent of edibles, greatly assists in the deposition of calcareous matter in our bodies. Nitrogenous food abounds in this element. Hence a diet made up of fruit principally is best for people advancing in years, for the reason that being deficient in nitrogen the ossific deposits so much to be dreaded are more likely to be suspended. Moderate eaters have in all cases a much better chance of long life than those addicted to excesses of the table. Blockages of the functions of the stomach are more usual to those who eat more than the stomach can utilize than to light eaters.

Mr. De Lacy Evans, who made many careful researches in these regions of science, comes to the conclusion that fruits, fish and poultry, and young mutton and veal contain less of the earthy salts than other articles of food, and are therefore best for people entering the vale of years. Beef and old mutton usually are overcharged with salts and should be avoided. If one desires to prolong life, therefore, it seems that moderate eating and a diet containing a minimum amount of earthy particles is most suitable to retard old age by preserving the system from functional blockages. Excessive action of atmospheric oxygen must be counteracted. Ossific matter deposited in the body must be dissolved as far as practicable. To produce this desired effect distilled water and diluted phosphoric acid are perhaps the most efficacious and the least harmless. Their combined chemical action retards old age.

The powerful solvent properties of distilled water are well known. As carbonate of lime exists in nearly all drinking water, the careful distillation eliminates this harmful element. As a beverage, distilled water is rapidly absorbed into the blood; it keeps soluble those salts already in the blood and facilitates their excretion, thus preventing their undue deposit. The

daily use of distilled water is, after middle life, one of the most important means of preventing secretions and the derangement of health. As to diluted phosphoric acid, it is one of the most powerful influences known to science for shielding the human system from the inconveniences of old age. Daily use of it mixed with distilled water helps to retard the approach of senility. By its affinity for oxygen the fibrinous and gelatinous deposits previously alluded to are checked, and their expulsion from the system hastened. Waste of the tissues is believed to be preventable also by the use of hypophosphites.

Hence, to sum up: The most rational modes of keeping physical decay or deterioration at bay, and thus retarding the approach of old age, are avoiding all foods rich in the earth salts, using much fruit, especially juicy, uncooked apples, and by taking *daily* two or three tumblerfuls of distilled water with about ten or fifteen drops of diluted phosphoric acid in each glassful.

As some objector may say, "I would not take all this minute and daily trouble to live 200 years—better a short life and a merry one." I will only answer, Take your choice.

WILLIAM KINNEAR.

INEBRIETY FROM A MEDICAL STANDPOINT.

PROMINENT among the grave social problems of to-day is the growth of the disease, Inebriety. Public interest in the subject has been shown for years by the many Temperance Reform organizations, and more recently by the formation of a political party whose primary idea is the suppression of intemperance by legislative enactment. It must be admitted that thus far these movements have been more or less failures. The reason for these failures is obvious. The inebriate has been regarded as an example of moral depravity, and the efforts to reform him have been in the line of appeals to his better nature. These waves of public sentiment served to produce an emotional crisis among inebriates. Names on pledge lists swelled to magnificent proportions. Hope waxed high, only to wane when it was found that the majority of these penitents had fallen into a worse condition than ever. This is the natural result of any method which appeals only to the emotional nature of the man, and fails to relieve his physical sufferings.

During the past few years the attention of the public has been drawn in another direction. Shrewd advertisers have assured the public that a panacea has been discovered almost equalling in potency the Elixir Vitæ. The inebriate was infused with new life and new aspirations, and he was assured that it would be impossible for him to recontract the habit.

Sufficient time has elapsed to allow us to judge of the merits and disadvantages of these systems. Many have been reformed indeed; but many not only have not been relieved, but have soon after taking the treatment become suicides or lunatics. Eleven cases reported by the *Medical Record* as inmates of one insane hospital, following this treatment, are too many to be explained by coincidence, or predisposition to insanity induced by alcohol.

Inebriates may be divided into three general classes.

1. The steady drinker, seldom or never becoming intoxicated.

2. The outgrowth of Class 1, associated with periods of intoxication. An effort to reform is made, but the physical deterioration so weakens the will that frequent excesses occur. These conditions become worse, and the